

**Description of *Eusarsiella tampa*, a new species from
Tampa Bay (Gulf of Mexico), Florida
(Crustacea: Ostracoda: Myodocopina: Sarsiellidae)**

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Abstract.—The carapace and appendages of a new species of myodocopid ostracode, *Eusarsiella tampa*, from Tampa Bay (Gulf of Mexico), Florida, are described and illustrated. The new species is a member of the family Sarsiellidae, subfamily Sarsiellinae.

The new species described herein was collected during a benthic monitoring program in Tampa Bay, Florida. The species has also been collected on the Atlantic Shelf off Georgia.

Station data.—Sta 95LTB01: 19 Sep 1995; 27.659°N, 82.597°W; depth 7.32 m; temp. 29.8°C; pH 8.1; sal. 25.3 ppt; dissolved oxygen 5.6 mg/l; silt + clay 3.7%. Sta 96LTB06: 13 Sep 1996; 27.645°N, 82.657°W; depth 3.8 m; temp. 29.4°C; pH 7.9; sal. 31.1 ppt; dissolved oxygen 5.1 mg/l; silt + clay 2.3%. Sta 96LTB20: 30 Sep 1996; 27.588°N, 82.748°W; depth 4.6 m; temp. 28.2°C; pH 8.14; sal. 34.5 ppt; dissolved oxygen 6.0 mg/l; silt + clay 3.5%.

Sampling device.—Young-modified Van Veen sampler (0.04 m²); sieve size 0.5 mm mesh; relaxant magnesium sulphate; fixative 5% borax buffered formaldehyde + rose bengal; preservative 70% isopropanol.

Disposition of specimens.—Specimens from Tampa Bay have been deposited in the National Museum of Natural History, Smithsonian Institution, and have been assigned USNM (United States National Museum) catalog numbers.

Family Sarsiellidae Brady & Norman,
1896

Subfamily Sarsiellinae Brady & Norman,
1896

Genus *Eusarsiella* Cohen & Kornicker,
1975

Eusarsiella tampa, new species
Figs. 1-5

Sarsiella greyi Darby, 1965:38 (part), pl.
27: fig. 10 [only paratype UMMP
48815].

Eusarsiella species B, Kornicker, 1986:171,
fig. 111a.

Etymology.—Named for Tampa Bay in which the holotype was collected; name is used as feminine noun in apposition.

Holotype.—USNM 194616, adult female with large unextruded eggs (appendages on a slide; carapace and furca in alcohol).

Paratypes.—Sta 95LTB01: USNM 194622, ovigerous female. Sta 96LTB06: USNM 194626: 5 adult females (3 ovigerous); USNM 194627, adult female. Sta 96LTB20: USNM 194623, ovigerous female; USNM 194624, ovigerous female; USNM 194625, adult female.

Type locality.—Sta 96LTB06, Tampa Bay, 1996.

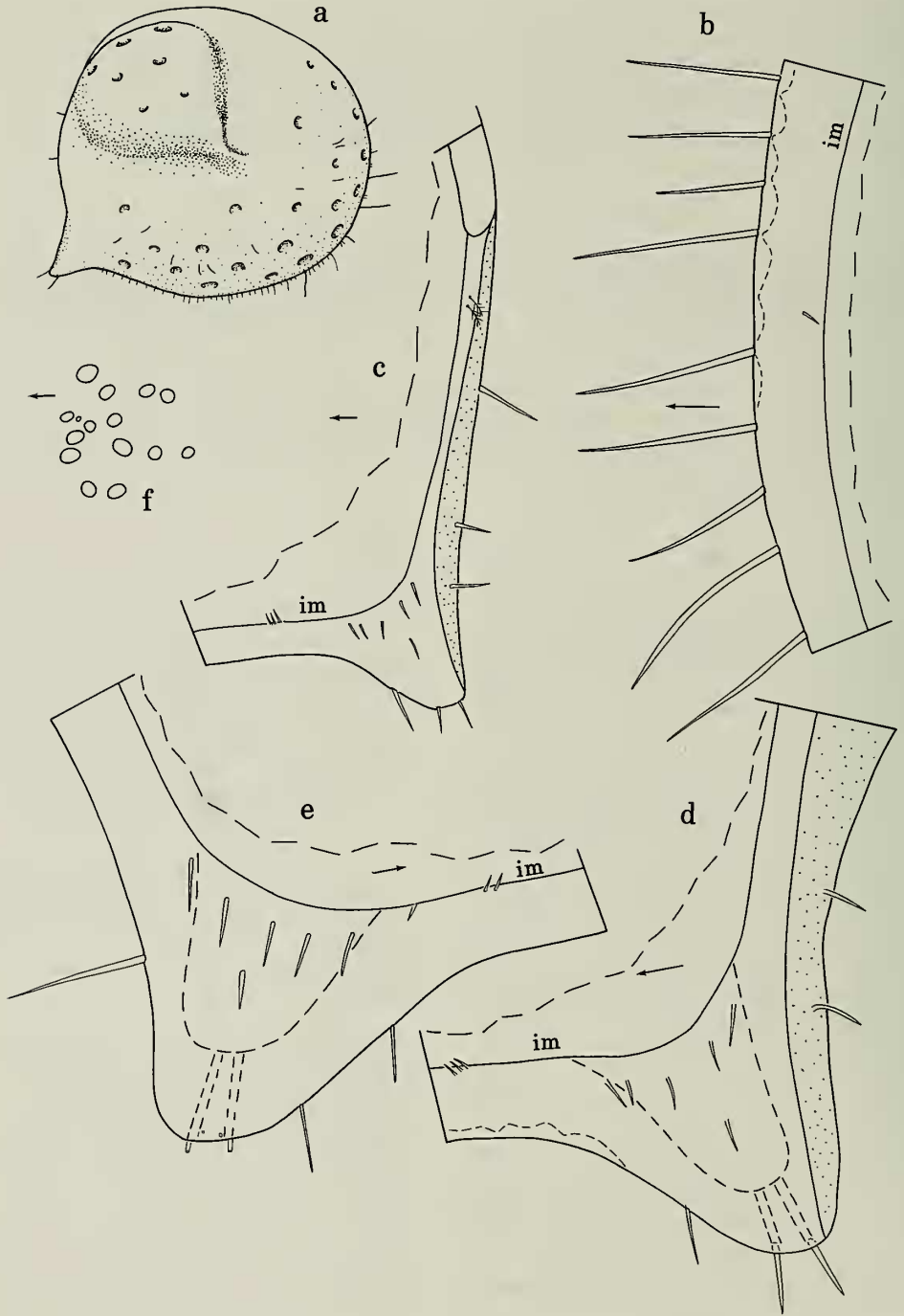


Fig. 1. *Eusarsiella tampa*, new species, holotype, USNM 194616, adult female: a, complete specimen from right side, length 0.91 mm; b, anterior edge of right valve, iv; c, posterior of right valve, iv; d, e, caudal process of right and left valves, respectively, iv; f, ends of central adductor muscle attachments protruding through left side of body with left valve removed.

Abbreviations in Figs. 1-5 are: bas, basale; Bo, Bellonci organ; cx, coxale; cx end, coxale endite; end, endopodite; ex, exopodite; epip, epipodite; es, esophagous; fu, furca; gird, girdle; im, inner margin of infold; iv,

Distribution.—Tampa Bay, depth 3.8–7.32 m. Georgia continental shelf depth 24.7 m (Darby 1965:39).

Description of adult female (Figs. 1–5).—Carapace round in lateral view with short tapered posteroventral caudal process and large projecting posterodorsal bulge (Fig. 1a). Dorsal edge of bulge rib-like on some specimens and with short horizontal or slightly concave anterior extension (concave in reference to valve dorsal margin); extension located just dorsal to central adductor muscle attachments.

Ornamentation.—Surface with numerous widely separated shallow fossae (not all shown in Fig. 1a). Surface of valves, especially around margin, with numerous minute pustules (these less apparent on some specimens). Single bristles abundant along valve margin and sparsely distributed over lateral surface (not all shown in Fig. 1a). Outer surface of valves without gel-like coating. Valves of some preserved specimens with internal calcareous concretions and with brownish color just within ventral edge.

Infold.—Anterior infold with small bristle near inner margin (Fig. 1b). Infold of caudal process with 3–5 proximal bristles forming row and 1 distal bristle (Fig. 1c–e). Posterior infold with 2 setal bristles dorsal to valve midheight (Fig. 1c).

Central adductor muscle attachments.—Obscured on carapaces, but many ovoid attachments visible protruding through body when valve removed (Fig. 1f).

Carapace size (mm).—USNM 194616: complete specimen, length 0.91, height including caudal process 0.88; left valve with body removed: length 0.95, height including caudal process 0.92, height excluding caudal process 0.79. USNM 194622, length 0.92, height including caudal process 0.92,

height excluding caudal process 0.86. USNM 194623, length 0.87, height including caudal process 0.84, height excluding caudal process 0.83. USNM 194624, length 0.89, height including caudal process 0.92, height excluding caudal process 0.80, maximum width 0.72. USNM 194625, length 0.92, height including caudal process 0.88, height excluding caudal process 0.76. USNM 194627, length 0.87, height including caudal process 0.86, height excluding caudal process 0.79. UMMP 48815, length 0.90, height 0.84 (Darby, 1965:39) (present measurements: separated right valve immersed in plastic in dished slide and under cover slip, length 0.89, height including caudal process, 0.93, height excluding caudal process 0.84).

First antenna (Figs. 2a, 5a).—1st joint bare. 2nd joint with dorsal spines and bare dorsal bristle. 3rd joint short, fused to 4th joint, with long bare dorsal bristle and short bare ventral bristle, and medial and ventral spines. 4th joint with dorsal, ventral, and medial spines, and 4 bristles (3 ventral, 1 dorsal). 5th joint with dorsal spines (not shown) and sensory bristle with 2 minute marginal filaments, 6th joint fused to 5th, with small medial bristle near dorsal margin. 7th joint: a-bristle short, bare; b-bristle slender, bare, about twice length of a-bristle; c-bristle about same length as sensory bristle of 5th joint. 8th joint: d- and e-bristles shorter than c-bristle, and d-bristle longer than e-bristle, both bare with blunt tips; f-bristle shorter than c-bristle, with 2 minute marginal filaments; g-bristle about same length as c-bristle, with 2 minute marginal filaments. (The 1st antenna of UMMP 48815 from off Georgia was reexamined and found to have minute filaments on the f- and g-bristles similar to those on the Tampa Bay specimens.)

←

inside view; le, lateral eye; ll, lower lip; lv, lateral view; me, medial eye; mnd, mandible; mo, mouth; mv, medial view; prot, protopodite; ul, upper lip; Y-scl, Y-sclerite. Roman numerals designate endites. Arabic numerals indicate individual joints of a limb. Arrow on illustration indicates anterior.

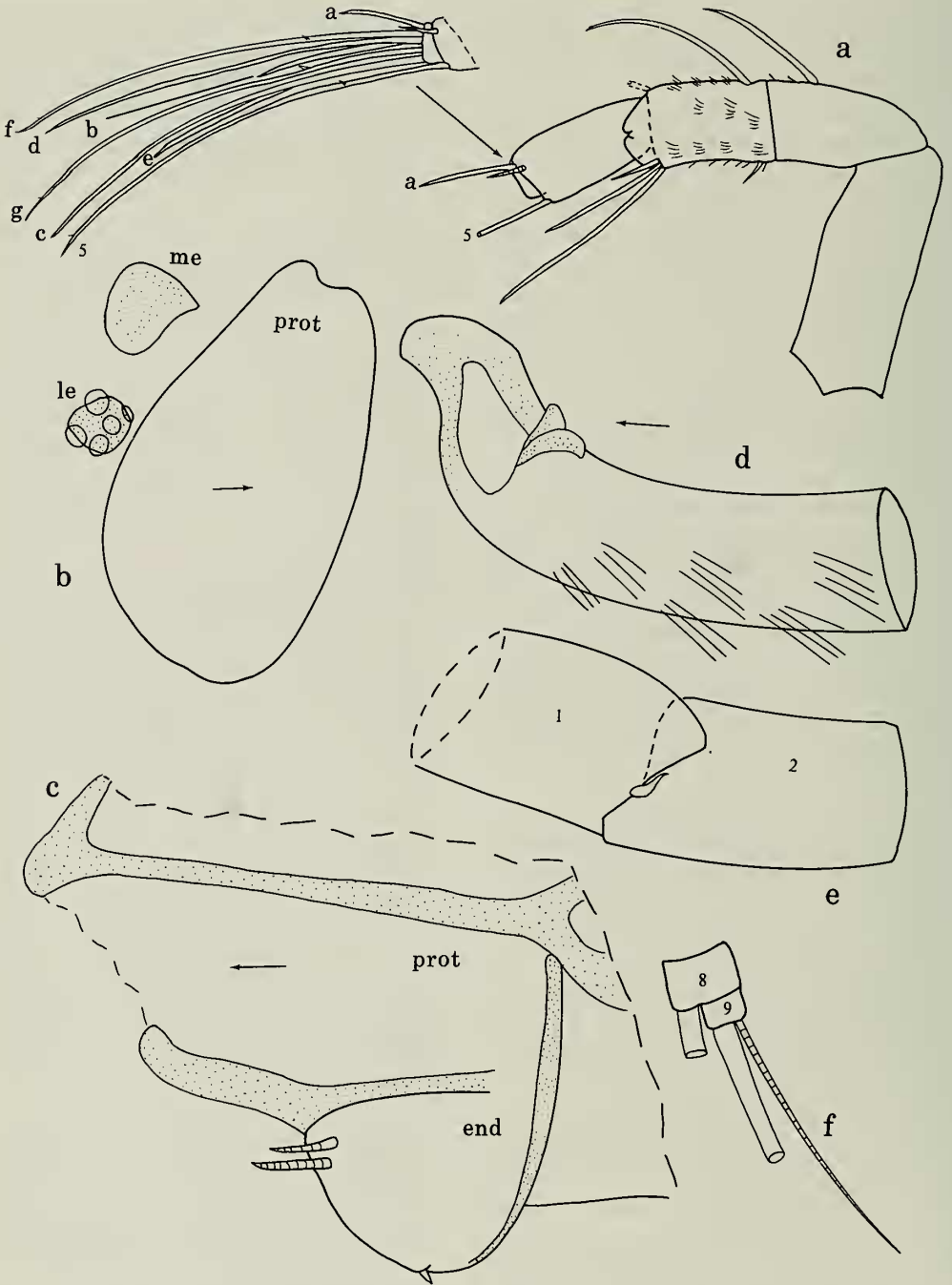


Fig. 2. *Eusarsiella tampa*, new species, holotype, USNM 194616, adult female: a, right first antenna, mv; b, protopodite of right second antenna, pigmented area only of medial eye, and right lateral eye (shown in place on body), lv; c, endopodite and distal part of protopodite of right second antenna, mv; d, proximal part of first exopodial joint of right second antenna, mv; e, distal part of first joint and second joint of right second antenna, mv; f, joints 8 and 9 of exopodite of right second antenna, mv. (For abbreviations see Fig. 1.)

Second antenna (Fig. 2b–f).—Protopodite bare (Fig. 2b, c). Endopodite with 2 small bare proximal bristles and 1 minute unringed bristle on a small terminal node (Fig. 2c). Exopodite (Fig. 2d–f): 1st joint with long proximal ventral spines and small terminal medial recurved tubular bristle (Fig. 2d, e); bristle of 2nd joint long with proximal ventral spines and distal natatory hairs (bristle not shown); bristle of 3rd joint with few proximal ventral spines and distal natatory hairs; bristles of joint 4–7 with natatory hairs, no spines; bristle of 8th joint with few proximal slender ventral spines and distal natatory hairs; 9th joint with 2 bristles (Fig. 2f): ventral bristle with slender proximal ventral spines and distal natatory hairs; dorsal bristle short bare.

Mandible (Figs. 3a, b, 5b–d).—Coxale endite single stout pointed; ventral margin of coxale with long slender spines (Fig. 3a). Basale (Fig. 3a, b): ventral margin with 5 or 6 short bristles; dorsal margin with small bristle at midlength and 2 terminal. 1st endopodial joint with medial spines and spines on distal dorsal corner and slender ventral claw. 2nd endopodial joint with minute distal bristle on dorsal margin and slender ventral claw. 3rd endopodial joint with slender terminal claw and 2 minute bristles (1 ventral, 1 dorsal).

Maxilla (Fig. 3c–e).—Precoxale with dorsal hairs (Fig. 3c). Coxale with short dorsal bristle. Endites (Fig. 3d, e): I with 4 pectinate claws and 2 ringed bristles either bare or with short spines; II with 2 pectinate claws and 2 or 3 ringed bristles; III with 1 pectinate unringed claw and 5 ringed bristles either bare, with marginal spines, or with few marginal teeth. Exopodite with 3 ringed bristles (1 long spinous, 2 short bare about $\frac{1}{2}$ length of long bristle). 1st endopodial joint with dorsal spines and 2 spinous alpha- and beta-bristles. 2nd endopodial joint with 2 short lateral a-bristles, 1 short medial c-bristle, and 5 pectinate end bristles.

Fifth limb (Fig. 4a, b).—Epipodite fragmented, with about 34 bristles. Single en-

dite with small bare bristle. Exopodite: 1st joint with 2 bristles; 2nd joint hirsute with 3 bristles; joints 3–5 fused with total of 6 bristles.

Sixth limb (Fig. 4c).—Single endite with either 1 fairly stout bristle or 2 bristles (1 fairly stout, 1 minute). End joint with 14 bristles (not all shown) followed by space and 2 long plumose bristles; posterior edge of limb hirsute. Closely packed cells present both within limb and within segments of body proximal to limb (cells represented by dots in Fig. 4c). (The 6th limb of UMMP 48815 from off Georgia was reexamined and found to be similar to that of specimens from Tampa Bay.)

Seventh limb (Fig. 4d, e).—Proximal group with 2 or 3 bristles (1 or 2 on each side), each with 2 or 3 bells; terminal group with 6 bristles (3 on each side), each with 2–5 bells; all bristles without marginal spines. Terminus with opposing combs, each with about 6 teeth (not all shown).

Furca (Figs. 3f, g, 5e).—Each lamella with 5 slender claws, except left lamella of USNM 194616 aberrant in having only 4 claws; claw 1 nonarticulated; claws with long and short teeth along posterior edges; proximal teeth of claws 2 and 3 unusually long; each lamella with 2–4 spines along margin following claws; right lamella anterior to left by width of base of claw 1.

Bellonci organ (Fig. 5a).—Elongate with broadly rounded tip.

Eyes.—Medial eye bare with brown pigment (Figs. 2b, 5a). Lateral eye smaller than medial eye, with 5 amber colored ommatidia and dark brown pigment between ommatidia (Fig. 2b, 5a).

Upper lip (Fig. 5b–d).—Single lobe extending anteriorly.

Genitalia (Fig. 5e).—Small round sclerotized ring with attached spermatophore.

Posterior of body (Fig. 5e, f).—Bare.

Y-Sclerite (Fig. 5e, f).—With distal branch typical for genus.

Number and size of eggs.—USNM 194616 with several large unextruded eggs, length of one egg 0.048 mm. USNM

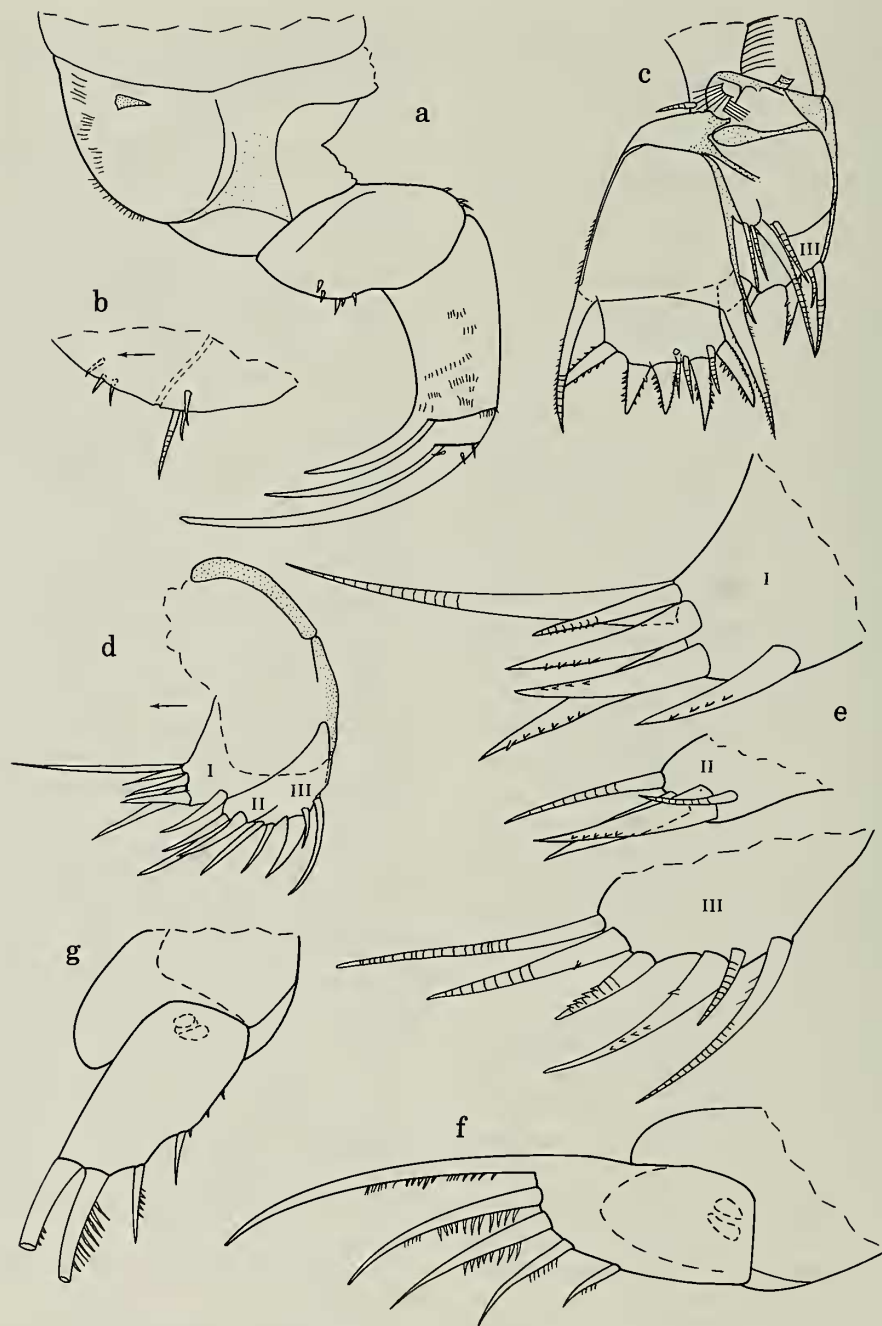


Fig. 3. *Eusarsiella tampa*, new species, holotype, USNM 194616, adult female: a, left mandible, mv; b, ventral margin of basale of right mandible, mv; c, left maxilla (endites I and II not shown), lv; d, e, endites I-III of right maxilla, mv; f, right lamella of furca, mv; g, left lamella of furca, lv. (For abbreviations see Fig. 1.)



Fig. 4. *Eusarsiella tampa*, new species, holotype, USNM 194616, adult female: a, b, right and left fifth limbs, respectively (muscles striated, sclerites stippled), lv; c, left 6th limb (not all bristles of end joint shown), lv; d, right 7th limb, lv; e, detail of tip of seventh limb (not all bristles shown). (For abbreviations see Fig. 1.)

194622 with 5 eggs in marsupium, length of one egg 0.077 mm. USNM 194623 with 6 eggs in marsupium (oval egg with transparent sheath surrounding an inner brown

mass bearing vestigial appendages), lengths of two eggs (maximum length of sheath/length of inner brown mass (mm)): 0.084/0.059, 0.074/0.058. USNM 194624 with

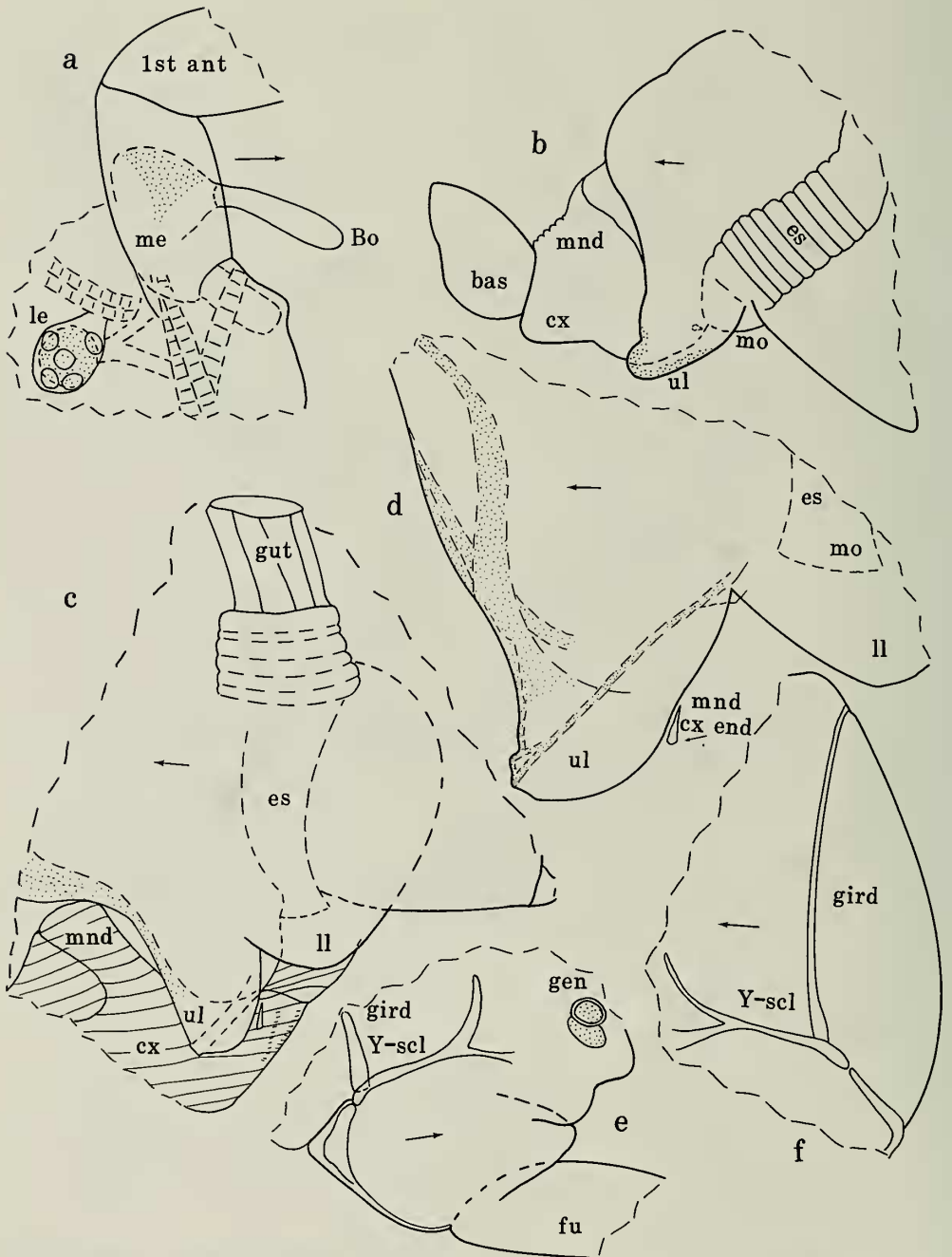


Fig. 5. *Eusarsiella tampa*, new species, holotype, USNM 194616, adult female: a, anterodorsal part of body from right side; b-d, anteroventral part of body from left side; e, posteroventral part of body from right side; f, posterior of body from left side. (For abbreviations see Fig. 1.)

one egg in marsupium, length of egg 0.64 mm. USNM 194627 with six unextruded eggs, length of three eggs: 0.037 mm, 0.039 mm, 0.044 mm. UMMP 44815 with 4 eggs in marsupium (Darby 1965:39).

Gut content.—Gut of USNM 194627 with oval egg with maximum length of 0.051 mm (egg consisting of poorly defined globules and similar in appearance to brown eggs in marsupium of specimen); remainder of gut with unidentified particles. Gut of USNM 194616 with unidentified particulate matter. Gut of UMMP 48815 with complete copepod.

Epibionts.—Carapace of USNM 194624 with abundant threadlike segmented filaments with either rounded or pointed tips. Carapace of one specimen of USNM 194626 with segmented filaments with rounded tips, another with oval egg-like stalked epibiont on posterior edge.

Comparisons.—The carapace of the new species, *E. tampa*, resembles that of *Eusarsiella vema* Kornicker, 1986. The 1st antenna of *E. tampa* bears a ventral bristle on the 3rd joint compared to none on *E. vema*. The caudal process of *E. tampa* is much shorter than that of *Eusarsiella greyi* (Darby 1965).

Correction.—In the “Key to the Species of *Eusarsiella*” in Kornicker (1986:44) couplet 28 should have been as follows:

- 28. First antenna without ventral bristle on third joint 29
- First antenna with ventral bristle on third joint 30

Acknowledgments

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Literature Cited

Brady, G. S., & A. M. Norman. 1896. A Monograph of the marine and fresh water Ostracoda of the North Atlantic and of Northwestern Europe.—The Scientific Transactions of the Royal Dublin Society, series 2, 5:621–784.

Cohen, A. C., & L. S. Kornicker. 1975. Taxonomic indexes to Ostracoda (Suborder Myodocopina) in Skogsberg (1920) and Poulsen (1962, 1965).—Smithsonian Contributions to Zoology 204:1–29.

Darby, D. G. 1965. Ecology and taxonomy of Ostracoda in the vicinity of Sapelo Island, Georgia. Pp. 1–77 in R. V. Kesling, ed., Four reports of Ostracod investigations. University of Michigan, Ann Arbor.

Kornicker, L. S. 1986. Sarsiellidae of the Western Atlantic and Northern Gulf of Mexico, and revision of the Sarsiellinae (Ostracoda: Myodocopina).—Smithsonian Contributions to Zoology 415:1–217.